



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

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EA Number: CA-180-08-22

Proposed Action: Leasing of Competitive Oil and Gas Lease Offers
West and Southwest of Yuba City

Location: Section 24, T.14 N., R.2 E. and Section 16, T.15 N., R.1 E., MDM
Sutter County, California

1.0 Purpose of and Need for Action

1.1 Need for Action

This environmental assessment covers the leasing of two parcels of federal oil and gas estate located in Sutter County, California. Parcel A is seven miles southwest of Yuba City and Parcel B is six miles west of Sutter. PPC Land Consultants has expressed an interest in obtaining oil and gas leases on these parcels. The proposed leases involve private surface estate with an undivided 50% interest in the mineral estate acquired by the United States under the Federal Farm Mortgage Corporation Act and managed by the BLM.

Parcel A is 156.36 acres in size and is described as follows (refer to Map 1):

All of the NW $\frac{1}{4}$ of Section 24 in T.14 N., R.2 E., MDM., except for a 60-foot wide strip of land along its eastern boundary.

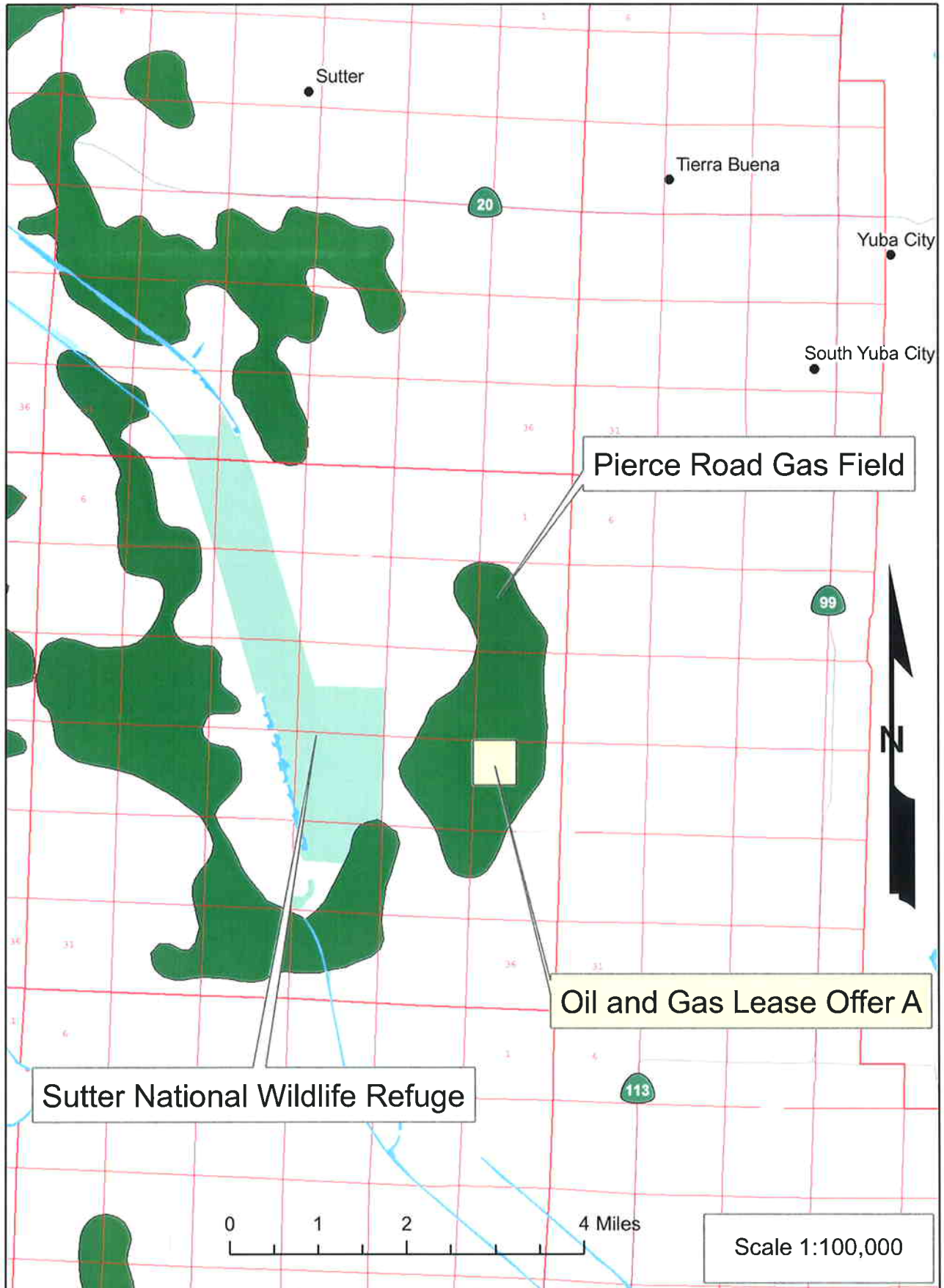
Parcel B is nine acres in size and is described as follows (Map 2):

That portion of the N $\frac{1}{2}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 16, T.15 N., R.1 E., MDM within Sutter County Tax Assessor's parcels 13-150-018 and 13-150-020.

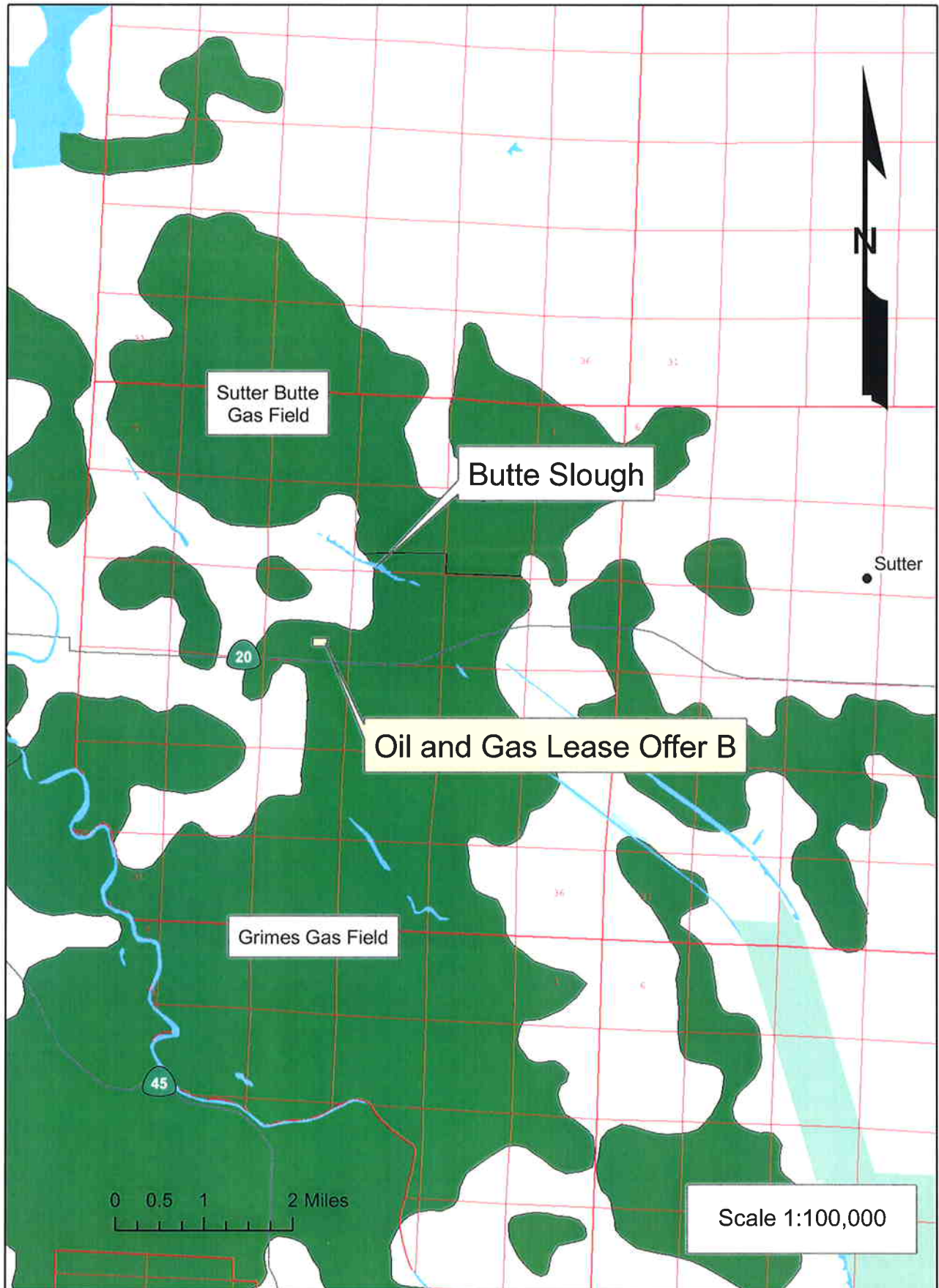
In order to meet Bureau of Land Management responsibilities under the Mineral Leasing Act of 1920, the Mineral Leasing Act for Acquired Lands of 1947, the Mining and Minerals Policy Act of 1980, and the Energy Policy Act of 2005, the BLM offers federal oil and gas resources for lease, exploration and possible development consistent with the Federal Land Policy and Management Act, the National Environmental Policy Act, the Endangered Species Act and other applicable laws, regulations, and policies.

The United States currently imports over 50% of the oil it consumes and there is a high demand for natural gas in northern California.

Map 1. Location of Proposed Lease Offer A



Map 2. Location of Proposed Lease Offer B



1.2 Background on BLM Oil and Gas Leasing

1.2.1 Review Process

The Secretary of the Interior is responsible for leasing and managing federal oil and gas resources under the Mineral Leasing Act of 1920, as amended. Acting for the Secretary, the BLM has issued thousands of oil and gas leases in California. The review process required before oil and gas drilling can occur on federal lands is described in detail in 43 CFR 3100 and BLM Manual 3100. At the leasing stage BLM conducts and documents an environmental analysis, unless an adequate analysis is already included in an existing environmental document.

After obtaining a lease and prior to drilling, a lessee submits an Application for Permit to Drill (APD), indicating the specific location of the drilling site. BLM conducts and documents additional environmental analyses at the APD stage. BLM may stipulate reasonable mitigation measures in its approval of an APD, consistent with the lease terms.

The presence of plant or animal species listed by the U.S. Fish and Wildlife Service (FWS) as threatened or endangered (T&E) within proposed oil and gas lease areas requires consultation with the FWS in accordance with Section 7 of the Endangered Species Act. Most surface disturbing activities associated with potential development of oil and gas resources within the subject lease tract would occur in areas recently cultivated or developed for agricultural and other purposes. If necessary, the BLM would initiate consultation with the FWS during the review of an APD if T&E species are found in the proposed area of operations.

1.2.2 Leasing of Split-Estate Lands and Directional Drilling from Adjacent Lands

The proposed lease offers involve split-estate lands. BLM has the authority to lease lands where all or part of the mineral estate is in federal ownership and the surface estate is owned by another party. BLM also has the authority to oversee drilling operations located on non-federal lands if directional drilling to develop adjacent federal oil and gas resources is proposed. Such operations would require the approval of an APD by the BLM and would be subject to applicable environmental laws, including NEPA and the Endangered Species Act. BLM processes APDs involving non-federal lands in the same manner as APDs proposing operations on federal lands. The lessee and/or operator would be responsible not only for adhering to BLM requirements, but also for reaching an agreement with the private surface landowner regarding access, surface disturbance and reclamation. Where the lessee/operator is unable to reach a surface use agreement with the private surface owner, the lessee/operator can file a surface owner protection bond. This bond should be in an amount sufficient to protect against damages to the surface as allowed in the statute that reserved or transferred the mineral rights to the federal government. The minimum amount for a surface owner protection bond is \$1,000.00.

1.2.3 Lease Terms and Stipulations

A lease for oil and gas (Form 3100-11) gives the lessee (holder of the lease) the right to drill and produce, subject to the lease terms, any special stipulations, other reasonable conditions, and BLM approval of an Application for Permit to Drill (APD). The regulations at 43 CFR 3101.1-2 define the reasonable measures which BLM can require of a lessee. These include, but are not

limited to, moving the proposed drilling site up to 200 meters, delaying surface disturbance or drilling up to 60 days, or requiring special reclamation measures. Generally, the BLM cannot deny a lessee the right to drill once a lease is issued unless the action is in direct conflict with another existing law.

BLM may decide not to grant the lessee the right to use or occupy the surface of the land leased. In such a case, the lease would be issued with a No Surface Occupancy (NSO) stipulation that prohibits surface use or development. The NSO stipulation may be appropriate where sensitive and significant resource values exist which could be impacted by lease operations. In some situations, BLM may elect to withhold lands from leasing rather than offer lands with an NSO stipulation.

In accordance with the standard terms of a federal lease, upon abandonment of the lease the lessee will be required, so far as is reasonably possible, to restore the surface of lands disturbed by leasing operations to its former condition.

1.3 Conformance with Applicable Land Use Plans

The leasing of tracts for oil and gas development within the Sacramento Valley is addressed in the 2008 Sierra Resource Management Plan (RMP) for the BLM Folsom Field Office. Oil and gas leasing in this area is in conformance with the decisions in this RMP. Also, according to the Sutter County planning department, oil and gas exploration and development activities on the subject lands would be in conformance with the county's General Plan.

2.0 Proposed Action and Alternatives

2.1 Proposed Action: Lease Parcel A Subject to Limited Surface Use Stipulation Lease Parcel B Subject to Standard Stipulations

Oil and gas leases are issued under standard stipulations, timing limitation stipulations, controlled surface use stipulations or the no surface occupancy stipulation. Environmental conditions within Parcel B do not require special lease stipulations. However, during BLM's assessment of potential environmental impacts, Parcel A was found to occur within the current range of the giant garter snake (GGS).

GGS are known to occur near the Sutter National Wildlife Refuge and within a mile of Parcel A. The lease parcel provides habitat for the GGS in the form of irrigation canals and flooded rice fields. This federally threatened species is most vulnerable during the season when it is inactive, from October 1 to April 30. Because the standard lease stipulations do not provide adequate protection for the GGS, a limited surface use stipulation would be required (Appendix C). With the exception of well and pipeline maintenance activities, no surface occupancy of the lease parcel would be allowed from October 1 to April 30. From May 1 to September 30 under the standard lease terms, the lessee would have the right to conduct oil and gas exploration and development operations on the leased lands, subject to reasonable conditions and subsequent approval of an Application for Permit to Drill. This special stipulation for Parcel A also requires formal consultation with the U.S. Fish and Wildlife Service under section 7 of the Endangered Species Act prior to BLM approval of each application for permit to drill.

Drilling, production and related activities on a lease are subject to applicable federal and state laws and regulations. Any mitigation measures needed in addition to the standard lease terms and special stipulations would be developed at the APD stage.

2.2 No Leasing Alternative

Under this alternative, oil and gas leases would not be issued for the parcels considered in this EA. Exploration and development of potential oil and gas resources on these parcels would not occur. Existing uses of the land would remain unchanged.

2.3 Selection of Preferred Alternative

The preferred alternative is the proposed action. Under this alternative Parcel A would be leased subject to a limited surface use stipulation that would protect the giant garter snake and Parcel B would be leased subject to standard lease stipulations.

3.0 Affected Environment

3.1 Oil and Gas Resources

The proposed lease offers are located in the Sacramento Valley structural basin (Sacramento Basin), a subsurface geologic feature that occupies the upper third of the Great Central Valley of California. This area has a high potential for the occurrence and development of natural gas.

Within the lease parcels the potential reservoir rocks are the Upper Cretaceous Guinda, Dobbins, Forbes, and Kione Formations, and possibly the Starkey-Winters Formation, all of which are submarine turbidite sequences. Additional gas reservoirs may occur in the Early Cenozoic Capay and Domengine Formations, with some slight potential for production from the post-Eocene non-marine deltaic strata. Parcel A is in the Pierce Road Gas Field where production began in 1989. Parcel B is in the Grimes Gas Field where production began in 1961. Current production from these fields is from the Forbes and Kione Formations.

3.2 Air

For the purpose of monitoring air quality statewide, the State of California has been divided into fifteen air basins. The subject lease offers are located within the Sacramento Valley Air Basin (SVAB). Air quality regulation in Sutter and Yuba Counties is the responsibility of the Feather River Air Quality Management District.

Ambient air quality standards have been established by federal and state legislation for a variety of air pollutants. Under Sec. 109 of the Clean Air Act, primary air quality standards are defined as thresholds which protect public health with an adequate margin for safety. Secondary air quality standards are levels of air quality required to protect the public welfare from any known or anticipated adverse effects of pollutants, such as the degradation of materials (i.e. rubber, plastics, etc.), the reduction of visibility, and the economic, ecologic or aesthetic damage to plants.

According to the 2006 State Area Designations by the California Environmental Protection Agency Air Resources Board, the Feather River Air District exceeds the state ambient air quality standards for ozone (3-year average of the fourth-highest daily 8-hour average ozone concentrations not to exceed 0.07 ppm) and for PM₁₀ (fine particulate matter of less than 10 microns, 24-hour average concentrations not to exceed 50 µg/m³ more than once per year).

Ozone forms from oxides of nitrogen (NOX) and from reactive organic gases (ROG). Sources of NOX and ROG emissions include industrial sources and mobile sources such as passenger cars, motorcycles, trucks, busses, heavy-duty construction equipment, recreational vehicles, marine vessels, lawn and garden equipment, and small utility engines. Air quality in the upper Sacramento Valley south of Chico is strongly influenced by transport from the densely populated Sacramento area. In the vicinity of the proposed lease offers the population is sparse. When the occasional ozone violation takes place it is considered to be largely the result of transport from the broader Sacramento area.

Agricultural activities are a primary source of PM₁₀ emissions in the region. Soil disturbance results in airborne dust, while the burning of rice straw and other agricultural wastes releases other airborne particulates. Over 500,000 acres of rice are planted annually in California, resulting in approximately 1.1 million dry tons of rice straw that must be managed each year. Beginning in 2001, the acreage of rice straw burning in California is limited to 25 percent of the total acres planted or 125,000 acres, whichever is less.

3.3 Water

The Central Valley Regional Water Quality Control Board oversees water quality in District 5, which contains the subject lease parcels. All operations having a potential effect on water quality must be in compliance with the requirements of this Regional Board.

Groundwater supplies many of the area's municipal, industrial and agricultural needs. Groundwater in Sutter County flows generally north to south, with springtime groundwater levels ranging from 60-70 feet above mean sea level in the north to 10-20 feet above mean sea level in the south. In the vicinity of the subject parcels, the water table lies less than 15 feet beneath the ground surface. Around Sutter Buttes, natural arsenic has been found in groundwater at depths of 200-300 feet. In the vicinity of Yuba City, increased nitrate levels in the groundwater at shallow depths have occurred due to the use of septic tanks.

Surface waters in the vicinity of the lease offers occur in Sutter Bypass and flow in canals, small creeks and aqueducts.

3.4 Soils and Plants of Lease Offer A

Parcel A has a surface elevation of 35 to 40 feet above sea level and is located west of the Feather River about seven miles southwest of Yuba City between the Sutter Bypass (a floodwater bypass from the Sacramento River) and Gilsizer Slough. Slopes are very gentle, generally in the range of 0 to 2 percent.

3.4.1 Soils

Within this lease offer are two soil types according to the 1982 soil survey of Sutter County conducted by the U.S. Soil Conservation Service. The Gridley clay loam occurs on 0 to 1 percent slopes in the northern and eastern areas of the parcel. It is a moderately deep, moderately well drained soil on terraces and basin rims. Both the surface layer and subsoil are clay loams. The Oswald clay is on 0 to 2 percent slopes in the southwest portion of the lease offer. This moderately deep, poorly drained soil occurs in basins. Both the surface layer and subsoil consist of clay. These soils formed in alluvium derived from mixed sources.

3.4.2 Present Surface Use and Vegetative Cover

The subject parcel has been cultivated to grow rice.

3.4.3 Past Plant Communities

When A. W. Kuchler mapped the Natural Vegetation of California in 1977, he mapped the area west of the Feather River in the vicinity of Marysville as two plant communities: riparian forest closest to the river and California prairie further west. The subject lease offer is within the zone mapped as California prairie. Non-native grassland replaced the native prairie of the Central Valley with the introduction of Mediterranean annual grasses from Europe and the advent of heavy grazing by domestic livestock. Important elements in our present grasslands are brome grasses, wild oats, annual fescues and storksbill. Although records are poor, it is thought that a perennial-grass-dominated community preceded European influence through much of the Central Valley (Kuchler's California prairie). Valley needlegrass, nodding stipa, and pine bluegrass would be likely candidates to have been dominant grasses in such a community.

A likely progression would have been from native grassland with an important perennial element, to non-native annual grassland, to agriculture. Native and even naturalized vegetation has been virtually eliminated from the tracts and their surroundings by agriculture and development. What little remains is largely confined to waste places, the edges of fields, roadsides, canal margins, etc. These habitats support mostly weedy species, often exotics.

Similarly, native riparian forest with Fremont cottonwood, willows, valley oak and Oregon ash was largely cleared and replaced by agriculture.

3.4.4 Rare Plants of the Region

Refer to Appendix A for a list of rare plant species that have been found in the general region of lease offers A and B.

3.4.5 Presence of Rare Plants within Lease Offer A

Parcel A does not exhibit habitat characteristics suitable for the rare plants known to occur regionally. With present land use there is no appropriate habitat in the proposed lease area for the two plant species listed in the California Natural Diversity Database for the Gilsizer Slough

Quad, (woolly rose-mallow, veiny monardella). All of the ground is in agricultural production. Tilling, herbicide use, and the dominance of crop plants have contributed to the loss of native vegetation from this parcel. There is no undisturbed habitat because the whole parcel is being actively cultivated. Appropriate habitat for the known rare plants of the region does not occur within the subject parcel.

Federally threatened or endangered plant species are not known to occur on or in the immediate vicinity of proposed lease offer A.

3.5 Soils and Plants of Lease Offer B

Parcel B has a surface elevation of about 42 feet above sea level and is located just west of the Sutter Bypass inlet between the Sacramento River and Butte Slough. Slopes are very gentle, generally in the range of 0 to 2 percent.

3.5.1 Soils

According to the 1982 soil survey of Sutter County conducted by the U.S. Soil Conservation Service almost the entire lease offer area is mapped as one soil mapping unit, Clear Lake silt loam, 0 to 2 percent slopes. Adjacent to the lease and possibly occurring on the edge of the lease, the survey mapped Nueva loam, 0 to 1 percent slopes. Both are alluvial soils of flood plains.

The parent material for Clear lake silt loam is described as mixed alluvium. Drainage is poor. This deep soil has a silt loam surface layer, with clay subsoil.

Nueva loam is described as having loamy alluvium from mixed sources as its parent material. It is somewhat poorly drained. This soil is also deep, with a loam surface layer, stratified sandy loam and silt loam beneath, and clay loam deep in the profile.

3.5.2 Present Surface Use and Vegetative Cover

The subject parcel is used for residential and agricultural purposes.

3.5.3 Past Plant Communities

Refer to 3.4.3.

3.4.4 Rare Plants of the Region

Refer to 3.4.4.

3.5.5 Presence of Rare Plants within Lease Offer B

Parcel B does not exhibit habitat characteristics suitable for the rare plants known to occur regionally. There is no appropriate habitat in the proposed lease area for the three plant species listed in the California Natural Diversity Database for the Sutter Buttes Quad, (woolly rose-mallow, Colusa layia and San Francisco champion). Most of the ground is in agricultural production or developed for residential use. Tilling, the introduction of weeds, herbicide use, and the dominance of crop plants, all have contributed to the loss of native vegetation from this

parcel. There is no undisturbed habitat and most of the area is being actively cultivated. Appropriate habitat for the known rare plants of the region does not occur within this parcel.

Federally threatened or endangered plant species are not known to occur on or in the immediate vicinity of proposed lease offer B.

3.6 Threatened, Endangered and Sensitive Wildlife Species

Lease offer A is in the current range of the giant garter snake (*Thamnophis gigas*). Giant garter snakes (GGS) have been found near Sutter National Wildlife Refuge within one mile of this parcel. Habitat for the GGS is present in the form of irrigation ditches and flooded rice fields. The giant garter snake (GGS) is listed as a federally threatened species protected by the Endangered Species Act. It is also a California threatened species protected under the California Endangered Species Act. A field exam of the proposed lease parcel was conducted by a BLM wildlife biologist on March 18, 2008. During the exam, the serpentine wake of a large snake swimming in an irrigation ditch and a serpentine trail in the muddy bottom of the canal were observed. The animal was probably startled while basking in the sun on the bank of the ditch. Based on these observations, other observations reported nearby, and the presence of GGS habitat, BLM is assuming presence of GGS within and in the vicinity of lease offer A.

Other federally threatened or endangered animal species are not known to occur on or in the immediate vicinity of Parcel A. However, two special status animal species are known to occur nearby: tri-colored blackbird, *Aeglais tricolor*, a BLM sensitive species, and Swainson's hawk, *Buteo swainsonii*, a state-listed threatened species.

One occurrence of tri-colored blackbird, *Aeglais tricolor*, has been reported within three miles southwest of Parcel A. Tri-colored blackbirds usually nest near fresh water in dense cattails or tules and thickets of willows, blackberries, wild rose and tall herbs. Tri-colored blackbirds were not observed on this parcel during the March 18, 2008 field exam.

Occurrences of Swainson's hawk, *Buteo swainsoni*, have been reported within two miles of Parcel A. Swainson's Hawk are not expected to nest on this parcel due to a lack of large trees and riparian vegetation. The foraging potential is probably minimal. Swainson's Hawk were not observed on this lease offer during the March 18, 2008 field exam.

A field examination of Parcel B was conducted on July 31, 2008. No federally threatened or endangered animal species or habitat that would support such species was found to occur on or in the immediate vicinity of this lease parcel. No other special status species were observed.

3.7 Cultural Resources and Native American Interests

Cultural resource studies pertaining to the subject lease parcels were conducted by a BLM archaeologist in February and July/August of 2008. The studies involved background records searches, field exams, and a brief interview with the son of the owner of the surface estate at Parcel A. The studies were designed to help BLM meet its obligations under Section 106 of the National Historic Preservation Act (refer to Appendix C).

The study for Parcel A indicates that the area of potential effects has been modified to grow rice and is being intensively farmed. Because the surface has been repeatedly plowed, flooded and burned over the last 30 to 40 years, the area no longer has any natural landforms and no prehistoric cultural resources were observed. In fact the proposed lease tract is within an area that regularly flooded in the past. General Land Office records dating to the 1800s identify this area as swamp and overflowed land. Today the lease tract is part of the Hunt rice farm which does not appear to have any historic elements or qualities.

The operation of oil and gas wells has been part of the local scene during this time. Calpine Corporation's Sutter Energy Center located adjacent to the proposed lease area consists of two power plants, its Greenleaf Unit #1 cogeneration power plant and its natural gas-fired Sutter Power Plant. This rice-farming/power plant landscape of the proposed lease area and its immediate surroundings does not reflect the early history of farming and oil and gas development in Sutter County or the lower Sacramento Valley. It is not considered a cultural resource.

The study for Parcel B indicates that the area of potential effects has been intensively farmed for decades, most recently, under lease from Eugene Taylor and Charles Skelton, the current owners. The proposed lease tract is within an area that regularly flooded in the past (most recently in 1997) and has been repeatedly plowed for farming (and has likely been subject to other farming-related ground-disturbing work). No original landforms were observed and no cultural resources were observed. The two old houses on the properties were built in the late 1930s/early 1940s by the Walls brothers who were the previous owners. The houses would not be affected by the lease and are considered outside of the lease area. The grade for the Northern Electric Railway, abandoned in the 1950s, is adjacent to the south side of the lease area and would not be affected

Native Americans were contacted and provided an opportunity to comment on the proposed undertaking. BLM has received comments from Enterprise Rancheria. This tribe commented that if "resources" (presumably Native American graves and archaeological deposits) are to be affected or are discovered during implementation of the undertaking, a professional archaeologist and tribal monitor should be brought in to assess them. There is no indication that leasing the subject parcels for oil and gas development would negatively affect Native American religious practices or significant traditional cultural properties.

3.8 Environmental Elements Not Affected by the Proposed Action

3.8.1 Recreation and Grazing

Impacts to recreational opportunities or to livestock grazing are not addressed in this EA because the surface estates are under non-federal ownership. The subject parcels are not open to the general public for recreational activities or livestock grazing.

3.8.2 Visual Resources

Because the areas within and in the vicinity of the subject parcels have been extensively developed for agricultural and other purposes, the development of oil and gas resources would not substantially affect visual resources.

3.8.3 Wilderness, Areas of Critical Environmental Concern, and Wild and Scenic Rivers

The subject parcels are not within any designated Wilderness Area, Wilderness Study Area, Area of Critical Environmental Concern (ACEC), or Wild and Scenic River corridor.

4.0 Environmental Effects

4.1 Impacts from the Proposed Action

4.1.1 Reasonably Foreseeable Development Scenario (Refer to Appendix D of the 2008 Sierra RMP)

Oil and gas exploration and production activities include running seismic lines (geophysical surveys), drilling exploration wells, and installing production facilities. Geophysical data needed to identify prospective oil and gas exploration targets is gathered by running seismic surveys. These surveys are conducted along roads wherever possible. Because of the accessibility of the subject parcels, any additional roadwork would be limited to well pad access. Seismic exploration may involve the drilling of several small shot holes, resulting in ground disturbance within about ten feet from each hole.

Drilling exploration or production wells would result in surface disturbance of about two acres per well. This includes disturbance associated with the construction of access ways and well pads. Natural gas production requires the use of pipelines usually installed along access road corridors. Pipelines associated with a small gas field with three producing wells might result in 2 acres of surface disturbance.

Since the discovery of the Sutter Buttes Gas Field in 1933, over 1,000 wells have been drilled in Sutter County and eastern Colusa County in the general area of the proposed lease offers.

Parcel A is in the Pierce Road gas field where 13 wells have been drilled since 1954. Two of these wells are actively producing gas, including one well (Hunt 1-14) located about a quarter-mile northwest of the parcel. In 1990, Dekalb Energy Co. directionally drilled a well (Transamerica 2-24) into the subject parcel from a location just east of the lease boundary (CACA 16210). This well was abandoned and plugged in 1993 and the lease relinquished in 1999.

Parcel B is in the Grimes gas field where 320 wells have been drilled since 1955. 132 of these wells are actively producing gas at the present time, 15 within a mile south and east of the parcel.

The most likely development scenario for the proposed lease offers would be the drilling of one or two unsuccessful exploration (wildcat) wells per parcel. However, for purposes of this environmental analysis, impacts from a more optimistic scenario will be assessed. In this scenario, four wells would be drilled of which two would be gas producers, one on each parcel. Surface disturbance of about ten acres would result from this development activity: eight acres disturbed by the drilling of four wells and two acres for pipeline installation.

The Sutter Power Plant is located near proposed lease offer A. This natural gas-fired, combined-cycle facility opened in 2001 generates electricity from natural gas piped in by PG&E. It is located just east of Parcel A in the N½NE¼ of Section 24, T.14 N., R.2 E., MDM. Production of gas from this lease offer would likely be piped to this facility.

4.1.2 Effects on Environmental Elements Protected by Other Authorities

The following elements of the environment are subject to additional requirements specified in statute, regulation, or executive order. According to BLM policy, these critical elements must be considered in all environmental assessments.

<u>Environmental Element</u>	<u>Affected</u>		<u>Environmental Element</u>	<u>Affected</u>	
	YES	NO		YES	NO
Air Quality	<u>X</u>	—	Hazardous or Solid Wastes	—	<u>X</u>
Cultural Resources	—	<u>X</u>	Water Quality	—	<u>X</u>
Fish Habitat	—	<u>X</u>	Wild and Scenic Rivers	—	<u>X</u>
Forests and Rangelands	—	<u>X</u>	Wilderness	—	<u>X</u>
Migratory Birds	—	<u>X</u>	Environmental Justice	—	<u>X</u>
Native American Concerns	—	<u>X</u>	Floodplains	—	<u>X</u>
T & E Species	<u>X</u>	—	Wetlands/Riparian Zones	—	<u>X</u>

4.1.3 Mineral Exploration and Development Opportunities

Offering the subject parcels for lease is expected to result in the exploration and development of potential oil and gas resources that underlie the subject lands. These activities could provide job benefits to the local economy, minor revenues for Federal, State, and County governments, and an increase in the gas reserves of the U.S. The royalties and rentals generated from mineral leases are dependable long term revenues for the Federal Treasury.

Issuing oil and gas leases for the subject parcels may result in the drilling of four wells and the disturbance of about ten acres of land. Considering the other land use activities in the subject area, only minimal cumulative impacts would result from potential development of natural gas resources within the subject lease offers.

4.1.4 Soils

Minor localized degradation of shallow soil profiles would occur due to earthmoving activities under this alternative. Seismic exploration activities might cause minor compaction of soils.

Indirect impacts to soils occur when bare soils are exposed to the elements. However, because the subject parcels have gentle slopes the land has low potential for erosion due to rainfall run-off.

The fertility and productivity of soils in the area could diminish with increased oil and gas development. Any such changes would be temporary, localized and negligible. Because the

lease offers are cultivated to grow rice and hay, there would be no cumulative impacts to soils resulting from the proposed action.

4.1.5 Air

Increases in emissions of ozone generating compounds (reactive organic gases and nitrogen oxides) would result from well drilling operations, and from the development of new producing wells and support facilities. There would also be increases in fine particulate matter (PM₁₀) emissions resulting from dust generated by seismic exploration activities, from travel on unpaved surfaces, and indirectly from the emissions of ROG and NOX gases which turn into small particles when released to the atmosphere.

The lessee/operator is required to obtain all necessary permits with appropriate federal, state and local agencies, and to conduct operations in compliance with all mobile and stationary source guidelines. Measures that would mitigate impacts to air quality include dust control using application of water and limiting traffic speed on unpaved roads. It would also include the use of low-emission construction equipment, use of low sulfur fuel, and/or use of the existing power transmission facilities, where available, rather than temporary power generators.

Drilling up to four wells during a lease period of 10 years with potential gas production from two wells would not significantly affect the quality of the air in the vicinity of the lease offers. According to a study conducted by the San Joaquin Valley Air Pollution Control District, 2.75 pounds of volatile organic compounds (ROG) are emitted from one steam enhanced oil production well per day. Emissions of these compounds from one natural gas production well would be at a similar level. According to the California Air Resources Board, the 2006 estimated annual average emissions of ROG for Sutter County resulting from oil and gas production are 2.47 tons per day or 1,800 times the emissions from one natural gas well. No emissions of NOX or PM₁₀ resulting from oil and gas production in Sutter County have been reported.

Emissions from oil and gas exploration and development activities within the proposed lease offers would be minor as compared to background emissions from agriculture, transportation, natural gas production and other sources in the area.

4.1.6 Water

California code and BLM procedures prohibit the use of unlined sumps where there is any potential to impact groundwater and require leak detection systems for all unlined pits. This is of particular concern where groundwater is near the surface. As long as standard operating procedures pertaining to the protection of fresh water zones are followed, no contamination of groundwater with fluids associated with the drilling of oil and gas wells is expected. Those procedures include well casing requirements, subsurface disposal of produced wastewater, spill contingency plans, and well abandonment procedures. With such operational controls in place, the likelihood of groundwater contamination is minimal.

It is also unlikely that exploration or production operations would affect surface water resources. With the likelihood of finding oil in the proposed lease area relatively low, the chance of seepage or an accidental spill of oil occurring would also be low. If such an event occurred, corrective action would be taken in accordance with federal and state requirements for spill control and clean-up operations. A spill contingency plan is required.

No cumulative impacts on water resources resulting from the proposed action are anticipated. Standard BLM practices will prevent or mitigate any significant impacts.

4.1.7 Plants and Wildlife

The proposed lease offers have been extensively cultivated for agricultural use, resulting in the general elimination of natural habitat. No federally threatened or endangered plant or animal species, other special status species, or potential habitat within Parcel B was observed during a recent field exam.

Probable signs of a giant garter snake (GGS), a federally threatened species, were observed during a field exam of Parcel A on March 18, 2008. These signs included evidence of an animal basking on a sunny bank, a splash in the water, a serpentine wave going through the water, and a serpentine trail about 2 inches wide on the bottom of the irrigation canal. Potential GGS habitat in Parcel A occurs in the form of irrigation ditches and flooded rice fields. No other listed species or potential habitat for such species was observed.

BLM has conducted informal consultations with the U.S. Fish and Wildlife Service (FWS) under Section 7 of the Endangered Species Act regarding potential impacts to GGS resulting from a federal oil and gas lease on Parcel A. In its letter to BLM dated July 8, 2008, FWS requests that the lease contain a stipulation that requires formal Sec. 7 consultation prior to BLM approval of each application for permit to drill on this parcel.

As a result of formal Sec. 7 consultation it is likely that FWS will require that lease operations in Parcel A be subject to the following timing limitation stipulation:

With the exception of facilities maintenance activities, no surface occupancy of the leased area will be allowed during the seasonal time period from October 1 to April 30.

This is the time period during which the GGS is most vulnerable.

Refer to the special lease stipulation for Parcel A in Appendix C. This limited surface use stipulation includes the above timing limitation and the requirement for formal Sec. 7 consultations with FWS before BLM approval of each APD.

Although drilling and related activities conducted within potential T&E species habitat could cause negative impacts on such species, the additional environmental review required at the APD stage will ensure that such impacts are either avoided or mitigated.

At the time an application for permit to drill is filed a BLM biologist will examine the proposed drilling site. Should any federally listed plant and/or animal species be discovered during field

surveys conducted during the review of an APD, consultation with the U.S. Fish and Wildlife Service will be completed prior to the initiation of any drilling and subsequent development activities. If T&E species would be adversely affected by lease activities, the BLM and FWS will require mitigation of all potential impacts. Because lease offers A and B consist primarily of agricultural land and because operators can be required to move drilling sites to tilled or developed areas up to 200 meters from proposed drilling locations, with the special stipulation to protect the GGS in Parcel A, no significant adverse impacts to any sensitive species are likely to occur.

Adequate protection to plants and wildlife in the vicinity of the lease offers is provided under the authority and discretion granted to BLM under its standard oil and gas lease terms. The limited surface use stipulation for Parcel A will provide additional protection for the giant garter snake.

Impacts on plants and wildlife associated with the limited oil and gas exploration and development activities expected to occur within the proposed lease offers would be indistinguishable from background levels of impacts from continued agricultural, industrial and residential development activities taking place in the region. Future federal actions, including approval of APDs, will be subject to the National Environmental Policy Act review process and the Endangered Species Act (Section 7) consultation requirements. The incremental effect of implementing the proposed action is expected to be minor when compared with that of other reasonably foreseeable development activities in the region.

4.1.8 Cultural Resources

No negative effects to significant cultural resources would result from the proposed action. The proposed lease tracts were studied by a BLM archaeologist. The study involved background records searches, Native American consultations, oral history interviews, and field inventories/inspections. The study was done to help BLM comply with Section 106 of the National Historic Preservation Act. The BLM archaeologist did not find any cultural resources within the area of potential effects and he recommended that no significant cultural resources would be affected.

4.2 Impacts from the No Leasing Alternative

4.2.1 Reasonably Foreseeable Development Scenario

Under this alternative no development of federal oil and gas resources beneath the proposed lease offer would occur.

4.2.2 Effects on Critical Elements

No impacts to critical elements of the human environment would occur under this alternative.

4.2.3 Mineral Exploration and Development Opportunities

Mineral exploration and development provides a source of revenue to the United States and to state governmental agencies through rental and royalty income. It also provides employment opportunities, is a benefit to the U.S. economy and reduces U.S. dependency on foreign oil.

Because the parcels of land considered in this EA are in an area of high potential for natural gas occurrence, the likelihood of an economic discovery may be higher than the national average. Restricting exploration or development could have an adverse effect on the availability of this energy resource and could result in drainage of federal oil and gas from production wells located on adjacent private lands.

This alternative would also inhibit the development of oil and gas in the vicinity of the subject lease offers by preventing the acquisition of subsurface data which could result in future discoveries in adjacent or similar areas. Implementation of this alternative would not be consistent with our Nation's goal of reducing our dependence on foreign sources of energy supplies.

This alternative would prevent the drilling of exploration wells which could result in the development of two production wells. Associated economic benefits would be lost. It would remove a potential source of long term rental and royalty revenues for federal, state and local governments.

4.2.4 Soil, Air, Water, Plants, Wildlife and Cultural Resources

No adverse direct, indirect, or cumulative impacts would occur, since there would be no exploration or development of federal oil and gas resources on the land proposed for lease.

4.3 Cumulative Impacts

The proposed action may result in two producing gas wells. The emissions of volatile organic compounds resulting from oil and gas production in Sutter County in 2006 were equivalent to the emissions from 1,800 natural gas wells (see 4.1.5). In other words, two additional gas production wells would increase air pollution by the local oil and gas industry by only 0.1 percent. Potential giant garter snake habitat in lease parcel A will be protected by a limited surface use stipulation (Appendix C). Any adverse impacts to this federally threatened species will be either avoided or mitigated.

There have been oil and gas exploration, development, and production activities in the southern Sacramento Valley for over 70 years. Other developments throughout the region include agricultural cultivation, pipelines, utility lines, power plants, roads, railroads, and canals. The anticipated cumulative effects from developing potential oil or gas resources in the proposed lease parcels would be indistinguishable from background levels of impacts resulting from current land use activities in the region.

5.0 Agencies and Persons Consulted

5.1 Agencies Consulted

The following federal, state and local agencies and groups were consulted during the preparation of this EA:

U.S. Fish and Wildlife Service
California Division of Oil, Gas and Geothermal Resources
California Department of Water Resources
California Air Resources Board
Sutter County Planning Department
Native American Contacts


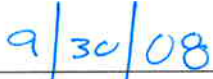




5.2 BLM Interdisciplinary Team

Tim Carroll, Geologist, minerals program coordinator, lead writer of EA
James Barnes, Archaeologist, planning and environmental coordinator
Peggy Cranston, Wildlife Biologist
Al Franklin, Botanist

5.3 Local Residents

Harry Hunt, owner of land at Parcel A
Eugene Taylor, owner of land at Parcel B

5.4 BLM Reviewers

 _____ NEPA coordinator, Cultural Resources	 _____ Date
 _____ Botany	 _____ Date
 _____ Wildlife	 _____ Date

5.5 Availability of Document and Comment Procedures

This EA, posted on Folsom Field Office's website (www.blm.gov/ca/folsom) under Information, NEPA, is available for review by the public for a 15-day period. Printed copies are available upon request. Comments should be sent to the BLM at 63 Natoma Street, Folsom, CA 95630 or emailed to us at ca180@ca.blm.gov.

Appendix A Rare Plants in the Region

Plant Species and Common Name	Federal Status	State Status	CNPS List/ BLM status
<u>Downingia pusilla</u> dwarf downingia	None	None	2
<u>Hibiscus lasiocarpus</u> California hibiscus	None	None	2
<u>Layia septentrionalis</u> Colusa layia	None	None	1B / BLM sensitive
<u>Monardella douglasii</u> ssp <u>venosa</u> Veiny monardella	None	None	1B / BLM sensitive
<u>Pseudobahia bahiifolia</u> Hartweg's golden sunburst	Endangered	Endangered	1B / BLM sensitive
<u>Sagittaria sanfordii</u> Sanford's arrowhead	None	None	1B / BLM sensitive
<u>Silene verecunda</u> ssp <u>verecunda</u> San Francisco campion	None	None	1B / BLM sensitive

California Native Plant Society (CNPS) List 1B plants are those plant species considered to be rare, threatened or endangered in California and elsewhere. With few exceptions, these plants are also BLM sensitive.

CNPS List 2 are those plant species considered to be rare threatened or endangered in California, but more common elsewhere.

The Hibiscus, Sagittaria and Downingia are wetland associated species. The Hibiscus grows on delta islands and along sloughs and marshes. The Sagittaria is a true aquatic plant, emergent from sloughs and marshes. The Downingia is a species of vernal pools.

The Layia and Silene are known in this region only from habitat atop the Sutter Buttes above 2000' in elevation.

The Pseudobahia in this region is known only from a collection back in 1847. The area where the plants were found is now developed and the plant has not been seen in this region since. In other areas the plant is known from low elevation grasslands.

The Monardella was thought to be extinct until rediscovered in 1992 in Butte County. It was last seen in the region of the lease tract (approximately 6 miles to the northeast of the project area) in 1854. The kind of habitat the species favors, sparsely vegetated shrinking and swelling clay soils, probably once occurred in the area.

Appendix B
Cultural Resource Studies

United States Department of the Interior
Bureau of Land Management
Folsom Field Office
63 Natoma Street
Folsom, California 95630

8100
CA-180.27

February 6, 2008

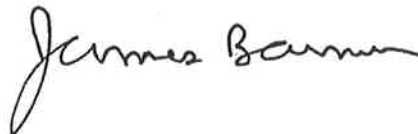
MEMORANDUM

To: Field Manager

From: James Barnes, Archaeologist

Re: Section 106 compliance for a proposed oil and gas lease in
MDM, T 14 N, R 2 E, Sec 24 near Yuba City, Sutter County
(case # CA-018-S-SV-08/01)

The Folsom Field Office (BLM) is planning to make available for oil and gas lease 160 acres located near the Sutter Bypass, 7 air miles southwest of Yuba City. On February 5, 2008 I inspected the proposed lease area, which is part of the Hunt family's rice farm. I found that the area is being intensively farmed. The land has been modified to grow rice, which involves repeated plowing, flooding, burning, and other ground-disturbing work. There are no pre-farming natural landforms or historic-era properties within the lease area. The Hunt rice farm does not appear to have any historic qualities. Native Americans will be contacted to see if they would like to comment on the undertaking. Pending a Native American response, making the land available for oil and gas development, as proposed, would not affect significant cultural properties. The finding of "no properties" would complete BLM's obligations under Section 106 of the National Historic Preservation Act, pursuant to our statewide Protocol Agreement.



United States Department of the Interior
Bureau of Land Management
Folsom Field Office
63 Natoma Street
Folsom, California 95630

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CA-180.27

February 6, 2008

LETTER TO FILE

SUBJECT: Section 106 compliance for an oil and gas lease in MDM, T 14 N, R 2 E, Sec 24 near Yuba City, Sutter County

PROJECT: Oil and gas lease in MDM, T 14 N, R 2 E, Sec 24 near Yuba City

REPORT #: CA-018-S-SV-08/01

DATE(S) COMPLETED: February 6, 2007

TYPE OF SURVEY: Class III

CULTURAL PPROPERTIES PRESENT: None


ELIGIBLE PROPERTIES: None

DETERMINATION OF EFFECT: No properties

SHPO CONSULTATION/SECTION 106 STEPS COMPLETED: all

DISCUSSION: This letter to the file documents that I have reviewed the above listed Cultural Resource Inventory Report. Pursuant to the Protocol Agreement (2004) between BLM California and the State Historic Preservation Officer, I affirm that all necessary steps have been taken to identify, record, and determine effects on cultural properties with the undertaking's area of potential effects. This report has been completed by an approved staff specialist and is in accordance with all standards and guidelines as outlined in the Protocol Agreement (2004).

I concur with the findings of this analysis.



William S. Haigh, Field Manager (CA-180)

2-7-08

Date

CULTURAL RESOURCE INVENTORY REPORT

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT FOLSOM FIELD OFFICE

1. **PROJECT NAME & CASE NUMBER:** Oil and gas lease in MDM, T 14 N, R 2 E, Sec 24 near Yuba City, case # CA-018-S-SV-08/01
2. **PROJECT SPONSOR/DEVELOPMENT COMPANY:** Bureau of Land Management-Folsom Field Office, Folsom, CA.
3. **REPORT DATE:** February 6, 2008
4. **DATE(S) OF SURVEY:** February 5, 2008
5. **COUNTY:** Sutter
6. **FIELDWORK LOCATION:** The area of potential effects (APE) is located off of Pierce Road, near the Sutter Bypass, approximately 7 air miles southwest of Yuba City. The surface of the APE is part of the rice farm of Harry Hunt. The subsurface mineral estate is administered by the Bureau of Land Management-Folsom Field Office (BLM). See the APE location map (attached).

MAP: USGS 7.5-minute quadrangle Gilsizer Slough, Calif. (1952)

LEGAL DESCRIPTION: MDM, T 14 N, R 2 E, Sec 24, NW 1/4
7. **PROJECT DESCRIPTION:** BLM is planning to make 160 acres available for oil and gas lease.
8. **PROJECT AREA DESCRIPTION:** The APE is part of a modern rice farm in the lowlands of the lower Sacramento Valley. The elevation is just 35 ft above sea level. The GLO plats dating to the 1850s indicate that the APE was just east of "overflow tule land"—now the location of the Sutter Bypass. Prior to intensive modern rice farming within the APE, the land was probably seasonal wetland or riparian forest. No pre-farming natural landforms exist within the APE. The area, in its entirety, is a modern rice-farming landscape.
9. **DESCRIPTION OF EXAMINATION PROCEDURES:** I spent about 30 minutes driving roads on levies on the west and south edges of the 160-acre area, which is being intensively farmed. Except for the roads the area has been entirely flooded for rice cultivation.
10. **INVENTORY TYPE:** Class III. See the inventory coverage map (attached).

11. **CONSULTATION:** See BLM central files.
12. **LEGALLY DEFINABLE ACRES SURVEYED:** 160 acres
13. **NUMBER OF PROPERTIES FOUND:** 0
14. **COLLECTION:** N/A
15. **HISTORIC CONTEXT:** Not much is known about rice farming within the APE and the immediate vicinity. It is known that rice farming has a long history in the lower Sacramento Valley. Large-scale rice farming appears to have caught on between 1880s and early 1900s—a period of agricultural expansion and diversification in the valley. Before this time, wheat had been California's largest and most profitable crop. Grown without irrigation, wheat has been described as "an ideal crop for wide, flat valley lands in a time of distant markets and a sparse rural population with little capital" (Rawls and Bean 1998:195). Worldwide competition caused the price of wheat to drop so low by 1885 that only large farms with expensive machinery were able to compete. The industry collapsed during the depression of the 1890s. Many large wheat farms in the valley were subdivided and sold because their owners (or the heirs of the original owners) were in debt.

The subdivision of valley lands helped set the stage for the cultivation of crops such as fruit, vegetables, and rice, which were better suited for smaller parcels. However, irrigation was needed. The shift from wheat to the other crops was signaled by the establishment of fruit colonies (many 10 to 20 acres in size) during the 1880s and 1890s on the eastern edge of the valley where the water table was relatively high and growing conditions were favorable.

A breakthrough on the irrigation issue came with the passage of the Wright Irrigation Act in 1887 which authorized the creation of irrigation districts and led to the organized development of large-scale irrigation systems in the Sacramento Valley. By 1929, 51 irrigation districts were delivering water to 282,000 acres. The industry was also aided by the introduction of competing railroads and the development of refrigerated railroad cars. World War I caused the rapid development of trucks, tractors, and other equipment useful for farming.

Aside from new equipment and technologies, valley farmers relied on labor, which was abundant. The Chinese were an important source of labor until the early 1890s. Japanese Americans replaced Chinese workers after this time. Some Japanese Americans became independent orchard, rice, and vegetable farmers, with family members providing the labor. The number of independent farmers was reduced by the Alien Land Law in 1913.

During World War I, valley farmers increased production to meet wartime demand and take advantage of new markets. After the war, crop prices fell and land prices rose. Prohibition beginning in 1919 caused farmers to remove vineyards and use the land to grow other crops. By 1929, 1,250,000 acres were in grain, with over one-third concentrated in Yolo, Colusa, and Glenn counties. 300,000 acres were in orchard. 130,000 acres were in vegetables, mostly in Sacramento, Solano, and Yolo counties. Rice was a well established crop, grown on 250,000 acres, mostly in Butte, Colusa, and Glenn counties. (Much of the above information was derived from <http://www.sacramentohistory.org>)

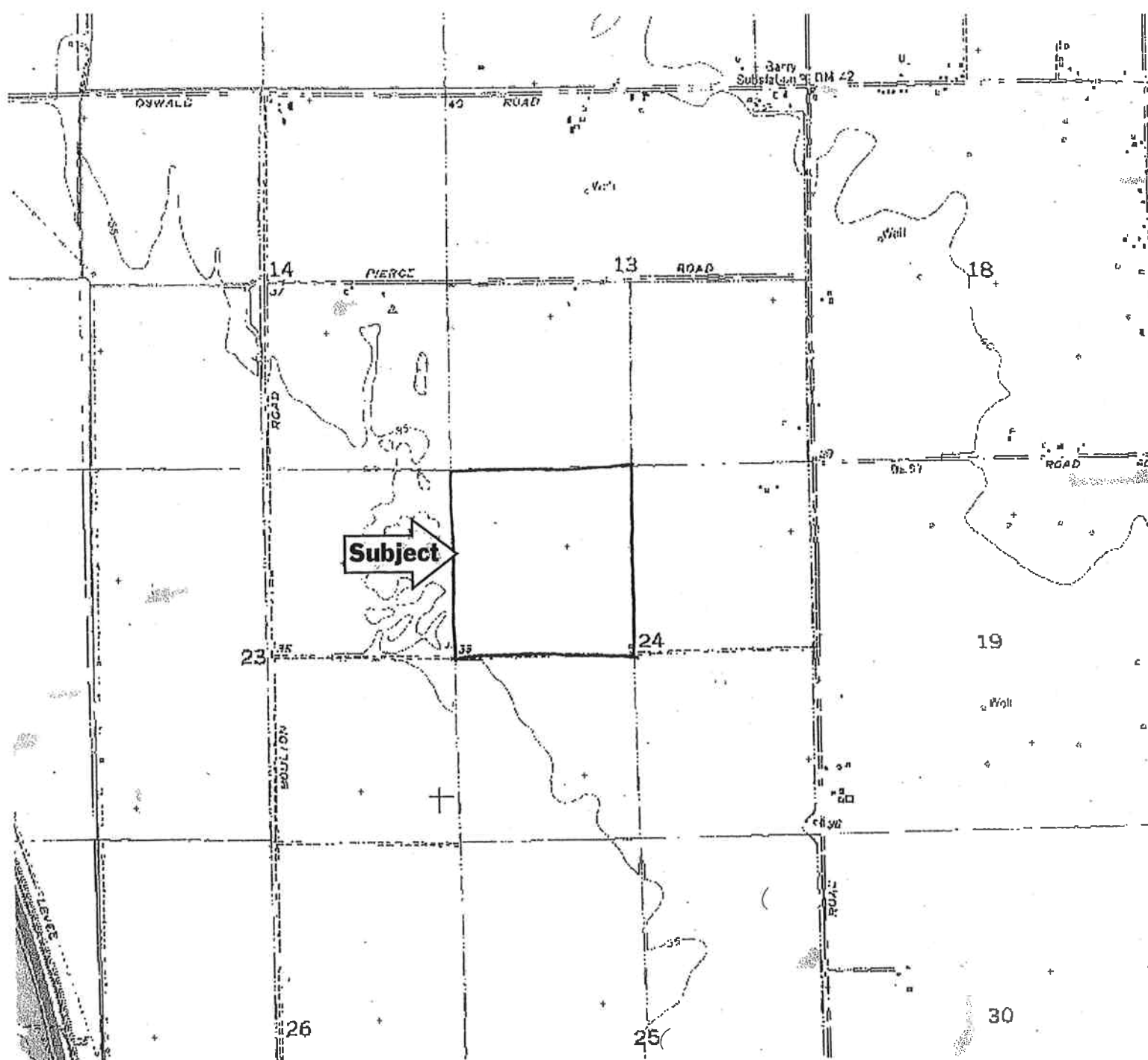
The APE appears to have been part of the Hunt rice farm for the last 30 to 40 years. The operation of oil and gas wells has been part of the local scene during this time. A Calpine power plant called the Sutter Energy Center is located adjacent to the APE. This natural gas-fired, combined-cycle facility opened in 2001 and turns natural gas piped in by PG&E into electricity. This rice-farming/power plant landscape of the APE and its immediate surroundings does not reflect the early history of farming and oil and gas development in Sutter County or the lower Sacramento Valley. It is not considered a cultural resource.

16. **DESCRIPTION OF FINDINGS:** No cultural resources.
17. **EVALUATION:** N/A
18. **ACTUAL/POTENTIAL NATIONAL REGISTER PROPERTIES AFFECTED:**
No properties
19. **LITERATURE SEARCH:**

BY WHOM: James Barnes, BLM Archaeologist

WHERE: Bureau of Land Management cultural resources and land records, on file at the Folsom Field Office, 63 Natoma Street, Folsom, CA

DATE: February 5, 2008
20. **LITERATURE CITED:**
Rawls, J. J. and Bean, W.
1998 *California: An Interpretive History*. Seventh Edition. McGraw Hill, San Francisco.
21. **CONCLUSIONS/RECOMMENDATIONS:** The undertaking, as proposed, would not affect historic properties.
22. **FIELD SUPERVISOR/PRINCIPAL INVESTIGATORS:**



**AREA OF POTENTIAL EFFECTS AND INVENTORY
COVERAGE MAP FOR AN OIL AND GAS LEASE NEAR YUBA
CITY**

**USGS 7.5 MINUTE QUADRANGLE: GILSIZER SLOUGH,
CALIF. (1952)**

MDM, T 17 N, R 2 E, SECTION 24 NW 1/4

**THICK DRAWN LINE = BOUNDARY OF APE AND INVENTORY
AREA**

United States Department of the Interior
Bureau of Land Management
Folsom Field Office
63 Natoma Street
Folsom, California 95630

8100
CA-180.27

September 8, 2008

MEMORANDUM

To: Field Manager

From: James Barnes, Archaeologist

Re: Section 106 compliance for a proposed oil and gas lease in
MDM, T 15 N, R 1 E, Sec 16, near Meridian, Sutter County
(case # CA-018-S-SV-08/06)

The Folsom Field Office (BLM) is planning to make available for oil and gas lease 9 acres located near Butte Slough, 15 miles west of Yuba City. On September 5, 2008 I inspected the proposed lease area. I found that the area has been intensively farmed for decades. The area is within an area that regularly flooded in the past and has been repeatedly plowed and has likely been subject to other ground-disturbing work. I found no cultural resources within the area of potential effects. Native Americans have been contacted to see if they would like to comment on the undertaking. To date, I have not identified any places of Native American religious and cultural significance that could be affected by the proposed lease. It is extremely unlikely that such places would be affected. Pending a Native American response, making the 9 acres available for oil and gas development, as proposed, would not affect significant cultural properties. The finding of "no properties" would complete BLM's obligations under Section 106 of the National Historic Preservation Act, pursuant to our statewide Protocol Agreement.



United States Department of the Interior
Bureau of Land Management
Folsom Field Office
63 Natoma Street
Folsom, California 95630

8100
CA-180.27

September 8, 2008

LETTER TO FILE

SUBJECT: Section 106 compliance for an oil and gas lease in MDM, T 15 N, R 1 E, Sec 16, near Meridian, Sutter County

PROJECT: Oil and gas lease in MDM, T 15 N, R 1 E, Sec 16, near Meridian

REPORT #: CA-018-S-SV-08/06

DATE(S) COMPLETED: September 8, 2008

TYPE OF SURVEY: Class III

CULTURAL PPROPERTIES PRESENT: None

ELIGIBLE PROPERTIES: None

DETERMINATION OF EFFECT: No properties

SHPO CONSULTATION/SECTION 106 STEPS COMPLETED: all

DISCUSSION: This letter to the file documents that I have reviewed the above listed Cultural Resource Inventory Report. Pursuant to the Protocol Agreement (2004) between BLM California and the State Historic Preservation Officer, I affirm that all necessary steps have been taken to identify, record, and determine effects on cultural properties with the undertaking's area of potential effects. This report has been completed by an approved staff specialist and is in accordance with all standards and guidelines as outlined in the Protocol Agreement (2004).

I concur with the findings of this analysis.



William S. Haigh, Field Manager (CA-180)

9-9-08

Date

CULTURAL RESOURCE INVENTORY REPORT

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT FOLSOM FIELD OFFICE

1. **PROJECT NAME & CASE NUMBER:** Oil and gas lease in MDM, T 15 N, R 1 E, Sec 16, near Meridian, case # CA-018-S-SV-08/06
2. **PROJECT SPONSOR/DEVELOPMENT COMPANY:** Bureau of Land Management-Folsom Field Office, Folsom, CA.
3. **REPORT DATE:** September 8, 2008
4. **DATE(S) OF SURVEY:** September 5, 2008
5. **COUNTY:** Sutter
6. **FIELDWORK LOCATION:** The area of potential effects (APE) is located off of South Butte Road, off of Highway 20, 2.5 miles east of Meridian. The subsurface mineral estate is administered by the Bureau of Land Management-Folsom Field Office (BLM). The surface is owned by Eugene Taylor (parcel # 13-150-018) and Charles Skelton (parcel # 13-150-020). See the APE location map (attached).

MAP: USGS 7.5-minute quadrangle Sutter Buttes, Calif. (1954)

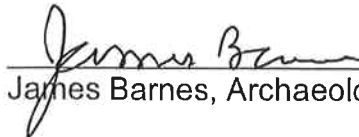
LEGAL DESCRIPTION: MDM, T 15 N, R 1 E, Sec 16
7. **PROJECT DESCRIPTION:** BLM is planning to make 9 acres available for oil and gas lease.
8. **PROJECT AREA DESCRIPTION:** The APE is located within a farmland/residential area in the lower Sacramento Valley.
9. **DESCRIPTION OF EXAMINATION PROCEDURES:** I spent about one hour walking the proposed lease area or APE. I walked the APE in an east-west direction, with 30 m transect spacing. The entire area has been repeatedly plowed for farming. At the time of the inventory, there were no crops. Ground visibility was excellent.
10. **INVENTORY TYPE:** Class III. See the inventory coverage map (attached).
11. **CONSULTATION:** See BLM central files.
12. **LEGALLY DEFINABLE ACRES SURVEYED:** 9 acres

13. **NUMBER OF PROPERTIES FOUND:** 0
14. **COLLECTION:** N/A
15. **HISTORIC CONTEXT:** The General Land Office plat for the township and range, finished in 1867, indicates that the APE was located in "swamp and overflowed" land, suggesting that the area was subject to regular flooding before the construction of levees.

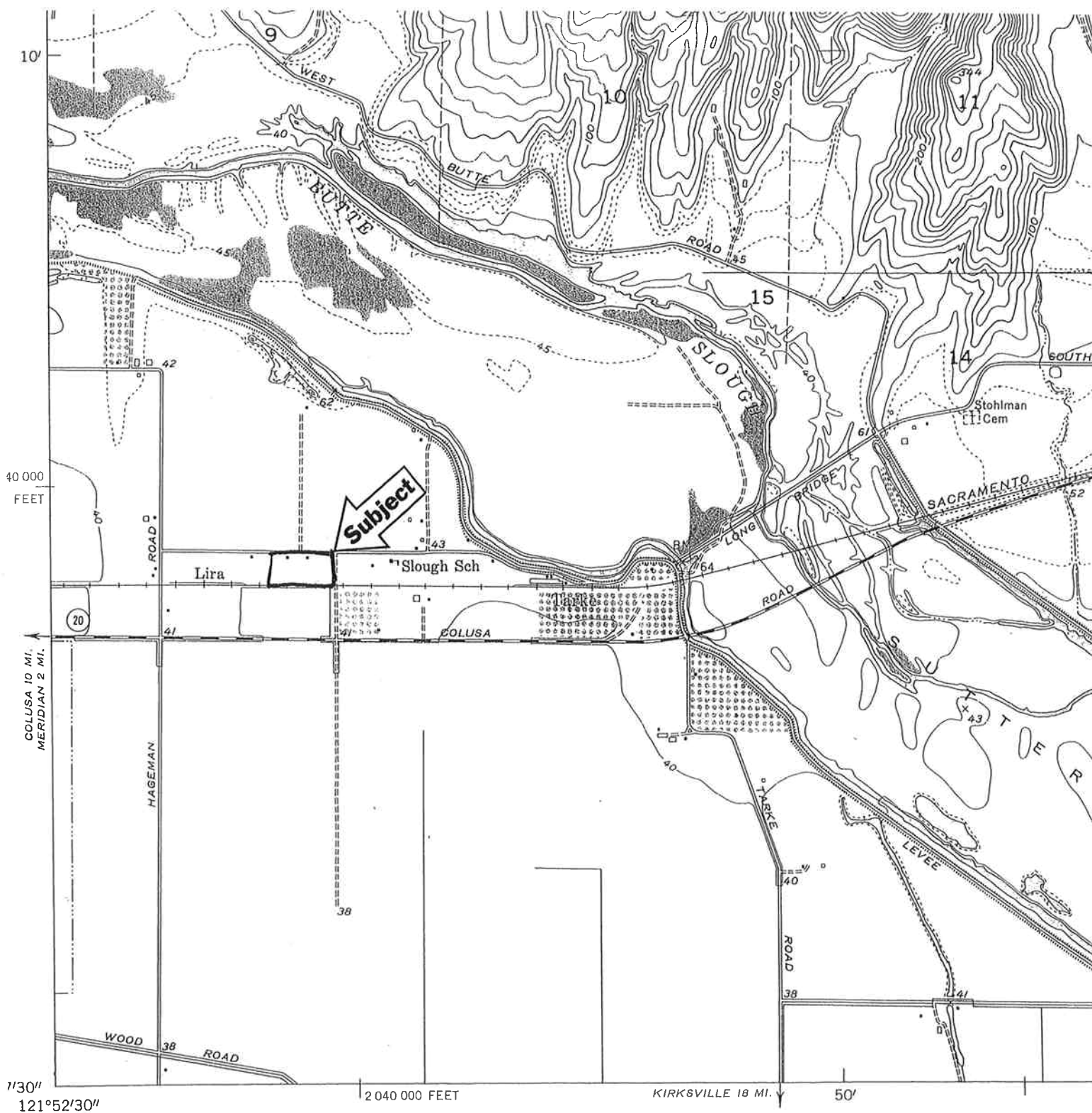
I spoke with Eugene Taylor and his wife about the history of the Slough School area. Eugene was born and raised here. His grandfather (surname Hageman) arrived in the area in the 1890s. Hageman Road is named after him. Eugene's grandfather and father were both farmers. Before World War II they grew mainly wheat and had livestock including hogs. One of the Hageman daughters married a Taylor. The Taylor family had a store in Meridian. Eugene went to school from the 1st to the 8th grade at Slough School, a historic one-room schoolhouse (still standing) just down the street on South Butte Road. He met his future wife at age 11 when her and her family moved to the area from Chowchilla and she started attending the school. The couple married in 1956 and moved into the house within the lease area (this is the western of the two houses within the lease area). Eugene eventually inherited the house and property from his father. The couple lived in this house until 1963 when they moved into their current house at 13365 South Butte Road. According to Eugene, the two old houses within the lease area were built at about the same time during the late 1930s/early 1940s by brothers Kelsey and Shirley Walls. Apparently Eugene's father bought Shirley Walls out, allowing his son Eugene and his wife to move into the house. The house was not complete at the time that they moved in. Eugene had to finish building it. Kelsey Walls continued to live in the house next store at 13402 South Butte Road until he died in 1977. Charles Skelton and his wife, the current owners, moved in around this time. They added the doublewide trailer (their current house) and other outbuildings. The old houses on both Skelton's and Taylor's property within the lease area are now being rented.

Eugene and his wife remember the operation of the Northern Electric Railway adjacent to the south side of the APE. They remember that the railway was abandoned during the 1950s. As kids they remember cattle getting electrocuted on the railway. They do not remember much about the Lira siding other than there was a beet dump located there—a place to load beets on to the train. They remember that most of the intensive farming in the area began after World War II when irrigation was improved and the land was leveled. They remember a major flood in 1940 and the 1997 flood which badly damaged their current home at 13365 South Butte Road.

16. **DESCRIPTION OF FINDINGS:** No cultural resources.
17. **EVALUATION:** N/A
18. **ACTUAL/POTENTIAL NATIONAL REGISTER PROPERTIES AFFECTED:**
No properties
19. **LITERATURE SEARCH:**
- BY WHOM:** James Barnes, BLM Archaeologist
- WHERE:** Bureau of Land Management cultural resources and land records, on file at the Folsom Field Office, 63 Natoma Street, Folsom, CA
- Northeast Information Center, California State University, California, Building 25, Suite 204, Chico, CA
- DATE:** September 5, 2008
20. **LITERATURE CITED:**
21. **CONCLUSIONS/RECOMMENDATIONS:** The undertaking, as proposed, would not affect historic properties.
22. **FIELD SUPERVISOR/PRINCIPAL INVESTIGATORS:**


James Barnes, Archaeologist

9/8/08
Date



AREA OF POTENTIAL EFFECTS LOCATION MAP FOR THE OIL AND GAS LEASE NEAR MERIDIAN

MDM, T 15 N, R 1 E, SEC 16

USGS 7.5-MINUTE QUADRANGLE: SUTTER BUTTES, CALIF.
(1954)

DRAWN LINE = APE BOUNDARY

Appendix C

Special Lease Stipulation (Parcel A)

Limited Surface Use - Protected Species: This lease is within the range of *Thamnophis gigas*, the giant garter snake (GGS), a federally listed threatened species protected by the Endangered Species Act. Potential GGS habitat exists within the lease, GGS populations exist within one mile of the lease, and a possible GGS sighting was recently made in an irrigation ditch adjacent to the lease area.

Notification to lessee: Time frames for processing applications may be delayed beyond established standards to allow for GGS surveys and consultation with the U.S. Fish and Wildlife Service (FWS).

Lease operations are subject to the following timing limitation stipulation:

With the exception of facilities maintenance activities, no surface occupancy of the leased area will be allowed during the seasonal time period from October 1 to April 30.

Surface-disturbing activities will be prohibited on the lease where:

- a) The proposed action is likely to jeopardize the continued existence of the GGS, or
- b) The proposed action is inconsistent with the recovery needs of the GGS as identified in an approved FWS Recovery Plan.

Prior to the authorization of any surface-disturbing activities, a preliminary environmental review will be conducted to identify the potential presence of habitat for the GGS.

Authorizations may be delayed until completion of the necessary surveys conducted during the appropriate time period for this species. Although, there is no specific FWS protocol for surveying GGS, surveys are generally conducted from April 1 through October 31.

The Bureau of Land Management will initiate formal consultation with the FWS for each application for permit to drill within the lease parcel to determine if the GGS would be affected by the proposed activity. The lessee should be aware that the FWS has up to 135 days to render its biological opinion, and that there are provisions for an additional 60-day extension. Offsite habitat protection or enhancement (compensation) may be required by the FWS when GGS habitat is disturbed. The consultation may also result in some restrictions to the lessee's plan of development, including modifications to proposed activities, movement of proposed sites of surface disturbance and additional seasonal restrictions. Surface-disturbing activities will be prohibited on the lease if FWS consultation concludes that either of the conditions described in a) or b) above exist.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Folsom Field Office
63 Natoma Street
Folsom, CA 95630
www.blm.gov/ca/folsom



Leasing of Competitive Oil and Gas Lease Offers West and Southwest of Yuba City Environmental Assessment CA-180-08-22

Finding of No Significant Impact September 2008

It is my determination that the proposed leasing of federal oil and gas resources at two parcels west and southwest of Yuba City will not result in significant impacts to the quality of the human environment. Anticipated impacts are within the range of impacts addressed by the 2008 Sierra Resource Management Plan (RMP). The issuance of two oil and gas leases does not constitute a major federal action having a significant effect on the human environment. Therefore, an environmental impact statement (EIS) is not necessary and will not be prepared. This conclusion is based on my consideration of the Council of Environmental Quality's following criteria for significance (40 CFR §1508.27), regarding the context and intensity of the impacts described in the EA and based on my understanding of the proposal:


- 1) *Impacts can be both beneficial and adverse and a significant effect may exist regardless of the perceived balance of effects.* Potential impacts include surface disturbance in areas already cultivated for agricultural purposes. Impacts to air quality due to increased emissions of ozone generating compounds and fine particulate matter within the proposed lease offers would be insignificant as compared to background emissions from agriculture, transportation, natural gas production and other sources in the area.
- 2) *The degree of the impact on public health or safety.* The proposed action does not have the potential to significantly impact public health or safety.
- 3) *Unique characteristics of the geographic area.* There are no unique geographic characteristics associated with the proposed oil and gas lease parcels.
- 4) *The degree to which the effects on the quality of the human environment are likely to be highly controversial effects.* No anticipated effects resulting from the proposed action have been identified as highly controversial.
- 5) *The degree to which the possible effects on the human environment are likely to be highly uncertain or involve unique or unknown risks.* The analysis does not show that this action would involve any unique or unknown risks.
- 6) *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.* The BLM has been issuing oil and gas leases in the Sacramento Valley for decades. The proposed action will not establish a precedent for future actions.

7) *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.* The action is not related to other actions proposed at this time and will not result in cumulatively significant impacts. Anticipated cumulative effects from the proposed action would be indistinguishable from background levels of impacts resulting from current land use activities in the region. The proposed action is consistent with the actions and impacts anticipated in the 2008 Sierra RMP.


8) *The degree to which the action may adversely affect National Historic Register listed or eligible to be listed sites or may cause loss or destruction of significant scientific, cultural or historical resources.* The lease parcels do not include any sites listed on the National Register of Historic Places or sites known to be eligible for listing.

9) *The degree to which the action may adversely affect ESA listed species or critical habitat.* Potential habitat for the giant garter snake has been identified within lease parcel A. Additional environmental review required at the APD stage will ensure that adverse impacts to this species are either avoided or mitigated. A formal Sec. 7 consultation will be required prior to BLM approval of each application for permit to drill on this parcel. Except for facilities maintenance activities, no surface occupancy of the lease area will be allowed from October 1 to April 30 when the giant garter snake is most vulnerable. Refer to the special lease stipulation in Appendix C of the EA.

10) *Whether the action threatens a violation of environmental protection law or requirements.* The proposed leasing of oil and gas would not be a violation of environmental protection law or requirements.



William S. Haigh
Field Manager, BLM Folsom Field Office



Date